

IN THE CLAIMS

Please cancel claims 1 through 28 without prejudice or disclaimer.

Please insert the following new claims:

29. A process for obtaining a highly-purified alginate composition, the process comprising the steps of:

- extracting an algae material in a solution with a complex forming agent,
- filtering the solution,
- precipitating an alginate out of the solution,
- collecting and dewatering the precipitated alginate, and
- repeating the steps a) to d) at least once.

30. A process according to Claim 29, wherein ethylene diamine tetra acetic acid is used as a complex forming agent for the extraction.

31. A process according to Claim 29, wherein the extracting takes place in a soda solution.

32. A process according to Claim 30, wherein activated carbon is added for the extraction of the solution.

33. A process according to Claim 29, wherein, before the filtering of the solution, sedimentation of cell constituents and particles from the solution is carried out with a porous binding agent.

34. A process according to Claim 33, wherein the sedimentation takes place with a porous granulate on the basis of diatomaceous earth, cellulose, or recycling materials from regenerated raw materials.

35. A process according to Claim 29, wherein the filtering takes place with deep filters, and the solution is subjected to more than one filtration, and the pore size of the filters used decreases for successive filtrations.

36. A process according to Claim 29, wherein the precipitation of the alginate takes place in a solution containing ethanol.

37. A process according to Claim 36, wherein the ethanol content is selected in the range from about 10% to about 50%.

38. A process according to Claim 29, wherein the collecting of the precipitated alginate is effected by foaming out of the solution, by decanting from the solution, or by stirring the solution with a stirring and collecting device.

39. A process according to Claim 29, wherein the dewatering of the alginate takes place at room temperature.

40. A process according to Claim 29, wherein the algae material used in the process is fresh algae material occurring in nature, fresh algae material cultivated in a bioreactor or tank system, or algae material from fusioned or regenerated algae cells.

41. A process according to Claim 29, wherein the algae material used in the process is specific organ or tissue parts of algae or algae parts, or specific organ or tissue parts of algae or algae parts from specific stages of the development cycle of algae.

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42. A process according to Claim 29, wherein the algae material used in the process is brown algae or other alginate-producing fresh-water or salt-water algae.

43. An alginate composition comprising a mixed polymer of mannuronic acid and guluronic acid, in which the ratio of mannuronic acid to guluronic acid in the mixed polymer is in the range from about 0.1 to about 9, and the mean molecular weight of the mixed polymer is greater than about 350 kD.

44. An alginate composition according to Claim 43, wherein an aqueous solution of the alginate composition at approximately a 0.1% concentration, has a viscosity in the range from about 10 to about 15 mPa s.

45. An alginate composition according to Claim 43, wherein an aqueous solution of the alginate composition at approximately a 0.5 % concentration, has a viscosity in the range from about 250 to about 300 mPa s.

46. An alginate composition according to Claim 43, wherein an aqueous solution of the alginate composition, under illumination with an excitation wavelength of 366 nm in the spectral range from 380 to 550 nm, does not show any fluorescence emission.

47. An alginate composition according to Claim 43, wherein the alginate composition under colour tests with the Folin-Denis reagent or with dimethocybenzaldehyde, does not show any colouration.

48. An alginate composition according to Claim 43, wherein an aqueous solution of the alginate composition, under illumination with an excitation wavelength of 270 nm in the spectral range from 300 to 500 nm, does not show any fluorescence emission.

49. An alginate composition according to Claim 43, wherein the alginate composition does not contain any proteins detectable with the photometric protein test according to Bradford.

50. Alginate composition according to Claim 43, wherein the alginate composition does not initiate any significant immunological reaction when implanted in the kidneys of BB/OK rats.

51. An alginate composition according to Claim 43, wherein the application of the XTT/MTT test, or the cell rotation method, or an electrical cell number and cell size analysis, does not lead to any detectable lymphocyte activation.

Sur C3 52. An alginate composition according to Claim 43, manufactured by the process according to Claim 29

53. An alginate compound according to Claim 43, for use in the manufacture of alginate capsules or coatings for transplant surgery and for other medical applications and for the food industry.

54. An alginate compound according to Claim 43, for use in the manufacture of alginate capsules or coatings for allogenic and xenogenic tissue.

55. An alginate compound according to Claim 43, for use in the manufacture of alginate capsules or coatings for Islets of Langerhans, parathyroid gland or epithelial body tissue, endocrine tissue, or dopamine-excreting cells.

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